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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,003	03/01/2004	Zhi Zhiou	Zhou 10	1307

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EXAMINER

DEGHAN, QUEENIE S

ART UNIT	PAPER NUMBER
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1731

MAIL DATE	DELIVERY MODE
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09/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/791,003	ZHIOU, ZHI	
	Examiner	Art Unit	
	Queenie Dehghan	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7,8,10 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7,8,10 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 8 now recites an invention for the spinning of the optical fiber as it drawn from a heated preform, wherein the heated preform is maintained rotationally stationary. While the specification has support for maintaining a rotationally stationary preform and for a rotating heat source, it does not appear to have support for the spinning of a preform that is stationary. Instead the spinning of the fiber appears to present in the embodiment where the preform is rotated.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

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granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 5, 7, and 10-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujimaki et al. (6,789,399). Fujimaki et al. disclose a process for making an optical fiber comprising:

- a. Providing an optical fiber preform with a longitudinal axis (figure 1)
- b. Heating at least a portion of the preform in a heat source by passing therethrough (figure 1, col. 2 line 66 to col. 3 line 13)
- c. Rotating the preform about its longitudinal axis relative to the heat source (figure 1, col. 2 line 66 to col. 3 line 13)
- d. Drawing a fiber from the preform (col. 3 lines 10-15)
- e. Spinning the fiber as it is being drawn from the preform as a result of the rotating preform (col. 3 lines 10-11).

3. Regarding claim 3, Fujimaki et al. further disclose a rate of relative rotation that is constant (col. 3 lines 12-13, col. 5 lines 60-61).

4. Regarding claim 5, Fujimaki et al. further disclose a unidirectional rotation (col. 7 lines 63-65).

5. Regarding claims 7 and 11, Fujimaki et al. disclose a heating furnace that is stationary and the preform is rotated along its longitudinal axis (col. 2 line 65 to col. 3 line 6).

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6. Regarding claim 10, In Table 1, Fujimaki et al. provide an example where the fiber drawn from a rotated preform has a PMD coefficient less than 0.2 picoseconds/(kilometer)^{1/2}.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimaki et al. (6,789,399) in view of Henderson et al. (6,240,748). Fujimaki et al. disclose a process for making an optical fiber comprising:

- f. Providing an optical fiber preform with a longitudinal axis (figure 1)
- g. Heating at least a portion of the preform in a heat source by passing there through (figure 1, col. 2 line 66 to col. 3 line 13)
- h. Rotating the preform about its longitudinal axis relative to the heat source (figure 1, col. 2 line 66 to col. 3 line 13)
- i. Drawing a fiber from the preform (col. 3 lines 10-15)
- j. Spinning the fiber as it is being drawn from the preform as a result of the rotating preform (col. 6 lines 19-29).

Although Fujimaki discloses the rotating of the preform and spinning of the fiber in different embodiments, Henderson et al. teaches the combination of rotating a preform

and spinning of the fiber (col. 4 lines 58-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the two method steps in order to impart the desired spin on the fiber for reducing PMD as suggested by Henderson et al.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato (JP Abstract 11130455) in view of Henderson et al. (6,240,748). Kato teaches a method for making an optical fiber comprising providing an optical fiber preform, heating a portion of the preform in a heat source as the preform passes there through, where in the preform is maintained rotationally stationary and the heat source is rotated about the longitudinal axis of the preform (abstract). However, Kato fail to disclose the spinning of the fiber as it being drawn from the heated preform. Henderson teaches spinning the fiber as it being drawn from the heated preform (col. 4 lines 58-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the spinning step of Henderson in the process of Kato in order to reduce PMD in the optical fiber.

Response to Arguments

10. Applicant's arguments, filed June 29, 2007, with respect to the rejection(s) of claim(s) 1 under Fujimaki et al. have been fully considered. The applicant argues that Fujimaki et al. fail to disclose a method where both the preform is rotated and the fiber drawn from the preform is spun. It is not explicitly recited in the claims that the rotating of the preform and spinning of the fiber is two separate steps. Nonetheless, a new rejection has been presented.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Queenie Dehghan whose telephone number is (571)272-8209. The examiner can normally be reached on Monday through Friday 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Q Dehghan


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